

it. Its general form, texture and color of epidermis inclines me to believe that it is a *Strophitus*, related to *S. tombigbeensis*. I find some vestiges of plication on one or two specimens of *Strophitus* in our collection. The teeth of this are stronger than in any specimen of that genus I have seen, but there is much variation in this matter."

I take great pleasure in naming this species after Mr. B. H. Wright, who has done so much in recent years in developing our knowledge of the *Unionidæ* of the southern states.

NEW PISIDIA.

BY DR. V. STERKI.

The following *Pisidia* have been known as distinct species for several years, and the names have been used in my own collection as well as in identifying specimens sent for examination by many conchologists. So they should have been published long ago.

Pisidium affine n. sp. Rather large, well-inflated, slightly oblique, beaks somewhat posterior, large and prominent in full-grown, broad and quite low in young specimens, rounded or slightly flattened on top; superior and inferior margins moderately curved, posterior subtruncate, with slightly marked angles above and below, supero-anterior forming one regular curve from the beaks to the anterior end, which is low-situated and well-rounded; surface distinctly and somewhat irregularly striated, with some coarser lines of growth, dull or somewhat shining; color lighter or darker grayish horn to plumbeous or brownish with a few irregular darker zones corresponding with the lines of growth, and often with fine darker mottlings, usually with a broad lighter zone along the margins; the young are pale horn or straw-colored; shell moderately thick, nacre whitish, muscle insertions little; hinge rather stout, plate rather broad; cardinal teeth long, not very strong, the right one curved, its free edge often indented in the middle, its posterior end somewhat thicker, with a fine groove, the left anterior tooth curved, the posterior slightly so, oblique, rather behind the anterior, each covering the other for half their lengths; lateral teeth stout, rather long, their cusps short and somewhat pointed, the outer ones in the right valve of good size; ligament rather long and stout.

Size: Long. 6, alt. 5, diam. 4 mill. (average).

Long. 7, alt. 6, diam. 4.7 mill.

Long. 4.6, alt. 3.8, diam. 2.8 mill. (small, northern form).

Habitat: Great Lake Region, Michigan to New York; also Minnesota, Illinois and Ohio (Ohio river drainage). It seems to prefer quiet water, small lakes and slow-running rivers.

Pisidium affine is related with *nov-eboracense* Pr. and with *sargenti* St. (See the following sp.) From the former, it differs by the following characters: it averages larger, its beaks are larger, broader, as especially noticeable in the young, the whole muscle is more full, the hinge margin is less curved, the supero-anterior, as mentioned, forms one long, unbroken curve, the anterior part is larger, the end situated nearer the "base" and more rounded. *P. nov-eboracense* retains its light, yellowish horn color, and the surface is rather shining, while older specimens of *affine* usually are light to dark grayish, and the surface is more dull.

Our species is somewhat variable. Specimens from Michigan, especially Perch Lake,¹ Reed Lake, some other small lakes, and from the Grand River at Grand Rapids are regarded as typical, and examples from the Little Lakes near Mohawk, N. Y., are rather the same. In northern Michigan, *e. g.*, in Mountain Lake, River Rouge, Carp Lake, there is a smaller form, of darker color but typical shape, collected by Mr. Bryant Walker, and the same was found in Clearwater Lake, Minnesota, by Mr. H. E. Sargent. A somewhat higher form, with a slightly marked angle at the scutellum, is known from Minnesota, Michigan, Buffalo, N. Y. (Miss E. J. Letson), and Meyer's Lake, near Canton, Ohio (the writer). The latter has a straighter striation and a somewhat waxy appearance of the surface.

Whoever has carefully studied and compared a few suites of specimens at all stages of growth, will always recognize the present species, as the young and half-grown are quite characteristic, while some full-grown examples may present similarities with *P. nov-eboracense* and *sargenti*. All these species are decidedly variable, in several directions, and so it takes a good deal of material and some experience in order to ascertain their claims for specific distinction, and to recognize aberrant and poorly developed forms. The present one being a "critical" species, I trust the somewhat lengthy expose on it will be excused.

Pisidium sargenti n. sp. Mussel of medium size, somewhat oblique,

¹ Collected in large numbers by Dr. Kirkland.

well inflated; beaks not much posterior, rounded or slightly flattened on top, well prominent over the hinge margin; the latter slightly curved in the adult, almost straight in the young and half-grown, with projecting, not or hardly rounded angles at the scutum and scutellum, which are slightly to well marked, narrow; posterior margin subtruncate above, passing into the well rounded inferior with an uninterrupted curve, or with a slightly marked, rounded angle, more so in the young; supero-anterior margin little to moderately curved, sloping from the projecting angle at the scutellum to the rounded anterior end; surface regularly and rather coarsely striated, dull, rarely somewhat shining in older specimens; epiconch thin and often worn off, pale horn-colored in the young, lighter to darker grayish to brownish in older specimens, usually with a lighter zone along the margins; shell moderately thick, nacre glassy, colorless to white or bluish, muscle insertions distinct; hinge stout, plate rather broad, cardinal teeth well formed, short, the right one rather strongly curved, its posterior end thickened and grooved, the left anterior angular, stout, the posterior small, oblique; lateral teeth rather short, stout, their cusps short, pointed, the outer ones in the right valve well formed; ligament short, strong.

Size: long. 5, alt. 4.4, diam. 3.4 mill.

Habitat: New York to Ohio, Michigan, Illinois and Minnesota, rather common in creeks, rivers and small lakes.

Well formed specimens are easily recognized by the oblique shape, the rather short, slightly curved hinge margin with the projecting angles at both ends, the regular striation and the dull, often roughish appearance of the surface; by the latter features it may be discerned from some forms of *P. scutellatum* which are of similar shape; but it is more nearly related to *P. nov-eboracense* and *affine*; and some full-grown, well-inflated specimens, in which the scutar and scutellar angles are sometimes less marked, might be mistaken for one or the other. But a lot of mussels at different stages of growth are always recognizable at once; the projecting angles, especially marked in half-grown specimens, in connection with the peculiarly dull surface (like in "typical" *P. compressum* and in *P. kirklandi*) are well marked characters, and so is the color, which turns to grayish while the mussels are much younger and smaller than in *P. affine*. In the latter species, the hinge-teeth, especially the cardinals, are longer and finer.

The present species is named after Mr. H. E. Sargent, who has assiduously collected small mollusca, and has secured some good lots of this *Pisidium*.

THE AMERICAN PHYSÆ.

BY O. A. CRANDALL, SEDALIA, MO.

Physa forsheyii Lea.

Sub-species *Physa forsheyii grosvenorii* Lea.

This species was discovered near Ruterville, Texas, in 1864. The description calls for six whorls, but I have examined cotypes in the Academy of Sciences in Philadelphia, and nearly a hundred examples from eight different localities, and have been unable to find a single one having more than five, so I concluded that five is the proper number.

This is a small shell, not exceeding $\frac{5}{8}$ inch in length, and distinguished by its sub-fusiform shape, exerted spire, deeply impressed sutures, smooth but not shining surface. Nearly all the adults are covered with microscopic transverse striæ, which give the surface a dull appearance. Bi-annuan.

Physa grosvenorii Lea, also described in 1864, belongs here as a variety. I have collected it in many different places, and have no hesitancy in referring it to this species. The only difference I can discover between this and *P. forsheyii* is that it is smaller, shorter, a little more inflated, more robust, and of a darker color. Some of the young shells are highly polished, but the adults have the same dull appearance as the species form, and are dark yellowish horn-color. It is a very pretty shell, uniform in size, color and general outline.

In the middle of January I found some of these little shells under some leaves in a spring brook near Sedalia, Mo., where they hibernated for the winter. The aperture, instead of being closed by a film as in land shells, was filled with dirt and sand, mixed with the viscid exudations from the body, forming a cement one-eighth inch thick, which I found quite difficult to remove without injury to the shell.

The species form is distributed over Texas and Louisiana, but farther north, through Arkansas, Indian Territory, Southern Kansas and Missouri, as far north as the central part of the state, it takes the form of *P. grosvenorii*.

Forms: *Physa whitei*, Lea.